

## Abstract of the Disclosure

This invention provides methods of forming new blood vessels in diseased or damaged tissue in a subject, methods of increasing blood flow to diseased or damaged tissue in a subject, and methods of increasing angiogenesis in diseased tissue in a subject, which methods comprise: a) isolating autologous bone marrow-mononuclear cells from the subject; and b) transplanting locally into the diseased or damaged tissue an effective amount of the autologous bone-marrow mononuclear cells, thereby forming new blood vessels in the diseased or damaged tissue. The new blood vessels may be capillaries or collateral vessels in ischemic tissue or any site of angiogenesis. Also provided are methods of treating tissue in disease or injury by local transplantation with an effective amount of the autologous bone marrow-mononuclear cells so as to induce vascularization in such diseased tissue.